

REMARKS/ARGUMENTS

Status of Claims

Claims 21-23, 27-35 and 37-57 are pending in the Application.

Claims 1-20, 24-26, and 36 were previously canceled.

Claim 33 is hereby amended.

Claims 41-55 were previously withdrawn.

Applicants hereby request further examination and reconsideration of the presently claimed Application.

35 U.S.C. §112 Rejections

Claim 33 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Claim 33 is hereby amended to read:

33. (Currently Amended) The well bore servicing fluid of claim 21, wherein the thermally activated viscosification composition comprises a linear polymer.

Based on the foregoing, Applicants respectfully request that the 35 U.S.C. § 112, second paragraph rejection be withdrawn.

35 U.S.C. §102(b) Rejections

Claims 21-23, 27, 28, 31-35, 37-39, and 57 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Le, et al., U.S. 6,169,058 (hereinafter *Le*). According to MPEP § 2131, “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Applicants respectfully submit that the cited prior art does not teach or suggest each and every limitation set forth in the pending claims, and therefore does not anticipate the instant claims.

The Office Action states, “Applicant argues that Le teaches a different polymer than instantly claimed – e.g. a hydrophilic water-insoluble polymer rather than a hydrophobically-modified water-soluble polymer claimed; however, Le clearly teaches the same polymer – specifically copolymers of acrylamide and sodium acrylate (Column 9 Lines 13-24 and Column 11 Lines 57-63) which must possess the same properties as claimed.” See Office Action at 6. Applicants respectfully disagree with the Office Action’s application of *Le* as § 102 anticipatory art to the instant application and, specifically, the Office Action’s conclusion that all copolymers of acrylamide and sodium acrylate would possess the same properties. See Office Action at 6. Applicants contend that the Office Action’s assumptive conclusion is faulty on two inter-related grounds. First, *Le* does not teach the same polymers as the instant application because *Le*’s polymers differ in both function and composition from those of the instant application. Second, the Office Action erroneously assumes that “copolymers of acrylamide and sodium acrylate . . . must possess the same properties as claimed.” See Office Action at 6.

Le Does Not Teach The Same Polymers As The Instant Application.

The Office Action’s statement, “Le clearly teaches the same polymer,” *see id.*, is not accurate. Claim 1 of the present application recites a “thermally activated viscosification composition” as comprising “an ionic water-soluble, hydrophobically modified polymer.” *Le* does not disclose “water-soluble, hydrophobically modified polymer[s].” In fact, *Le* actually teaches away from the use of polymers that are water soluble. See *supra*; see also *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.”). *Le* teaches insoluble, hydrophilic polymers. See, e.g., *Le* at col. 1, lines 8-10

(“this invention relates to the addition of hydrophilic swelling particles”); col. 3, line 39 (“the polymers are insoluble in water”); col. 8, lines 66-67 (“In preparing superabsorbing particles, various hydrophilic monomers may be used in polymerization.”); col. 9, lines 4-26 (“Hydrophilic monomers may include both ionic and non-ionic monomers . . . [t]hese hydrophilic monomers may be polymerized and crosslinked with or without an internal crosslinking agent.”); col. 25, lines 4-15 (claim 1) (“What is claimed is: . . . a dispersion of water swellable particles, said particles comprising synthetic hydrophilic polymers that are crosslinked so that said particles are insoluble in water”); col. 26, lines 15-18 (claim 15) (“forming a dispersion of water swellable particles, said particles comprising synthetic polymers that are crosslinked so that said polymers are insoluble in water”); col. 28, lines 18-22 (claim 34) (“said polymer treatment fluid comprising a first additive that includes a dispersion of water swellable particles, said particles comprising synthetic hydrophilic polymers that are crosslinked so that said polymers are insoluble in water”). Furthermore, *Le* contains no suggestion regarding the hydrophobic modification of any of the polymers it does identify.

Examples of the instant application’s “water-soluble, hydrophobically modified polymers” are provided in claims 38 and 39 as well as throughout the specification. The “water-soluble, hydrophobically modified polymers” of the instant application include: 1) a copolymer of N-alkylacrylamides and an ionic monomer; 2) a copolymer of stearylacrylate and acrylic acid; 3) a terpolymer of N-isopropylacrylamide, trimethyl acrylamidopropyl ammonium iodide, and 3-dimethyl- (methacryloxyethyl) ammonium propane sulfonate; 4) a copolymer of N-tertiarybutylacrylamide or N-isopropylacrylamide and 2-acrylamide-2-methyl propane sulfonic acid; 5) poly(ethyleneoxide)-block-poly(propyleneoxide)-block-poly(ethyleneoxide) grafted with

polysodium acrylate; or 6) hydrophobically modified poly(sodium acrylate). *Le* does not mention any of these polymers.

All Copolymers Do Not Possess The Same Properties.

The Office Action's conclusion that "copolymers of acrylamide and sodium acrylate . . . must possess the same properties as claimed" is wholly unsupported. The instant application's claims are directed at polymers with two distinct parts, a hydrophilic portion and a hydrophobic substituent. *See* Application at ¶¶ [0016]-[0017]. While taken separately, the hydrophilic portion of the above polymers referenced in the instant application may, for the sake of argument, be insoluble and hydrophilic in nature, like all the polymers disclosed in *Le*. However, when considered as a whole, each of the polymers taught by the instant application includes a hydrophobic substituent that results in the instant application's polymers exhibiting solubility and hydrophobic characteristics, unlike the polymers of *Le*.

While *Le* teaches that acrylamide and sodium acrylate are hydrophilic, *see Le* at col. 8, line 66 – col. 9 line 26, the hydrophilic nature of a compound can be altered by the addition of a hydrophobic substituent. For example, the instant application teaches that N-alkylacrylamide, a compound not recited in *Le*, forms a water-soluble, hydrophobically modified polymer when combined with other hydrophilic comonomers. *See* Application at 6. Theoretically, the hydrophilic comonomer that N-alkylacrylamide is combined with could be acrylamide or sodium acrylate, i.e., the hydrophilic comonomers taught by *Le*. If so, the hydrophilic nature of acrylamide or sodium acrylate would be hydrophobically modified -- thus, the copolymer resulting from the combination of N-alkylacrylamide and acrylamide or sodium acrylate would not possess the same properties as the polymers disclosed in *Le*. Assuming, without conceding that the instant

application's polymers comprise acrylamide¹ and sodium acrylate, the properties exhibited by instant application's polymers containing acrylamide and sodium acrylate would differ from the properties of *Le*'s polymers because of the differences between the instant application's polymers' other substituents and the other, non-acrylamide, non-sodium acrylate components of *Le*'s polymers. See, e.g., Application, claim 38 (*Le* does not disclose grafting polysodium acrylate to poly(ethyleneoxide)-block-poly(propyleneoxide)-block-poly(ethyleneoxide)); claim 39 (*Le* does not disclose hydrophobically modifying poly(sodium acrylate)).

In summary, *Le* is silent regarding the hydrophobic modification of hydrophilic compounds. *Le* teaches away from water-soluble polymers. *Le* does not disclose any of the polymers identified in the instant application. These three critical factors foreclose *Le*'s application as § 102 anticipatory art to the instant application because *Le* cannot be read to teach or suggest "the same composition used in the same manner as claimed" as the instant application. Consequently, claim 21 and its dependent claims (22-23, 27, 28, 31-35, 37-39, and 57) should be allowed over *Le*.

35 U.S.C. § 103(a) Rejections

Claims 29, 30, and 56 stand rejected under 35 USC § 103(a) as being unpatentable over *Le* in view of Reddy, et al., U.S. 6,444,316 (hereinafter *Reddy*). Claim 40 stands rejected under 35 USC § 103(a) as being unpatentable over *Le* in view of Tomaszewski, et al., U.S. 5,192,461 (hereinafter *Tomaszewski*). Thus, claims 29, 30, 40, and 56 stand or fall on the application of *Le*

¹ The instant application makes no claim regarding base acrylamide. Rather, the instant application concerns hydrophobically modified forms of acrylamide, e.g., N-alkylacrylamide, N-isopropylacrylamide, and N-tertiarybutylacrylamide, all of which differ significantly from base acrylamide and the other acrylamides referenced in *Le*.

to the claims. The requirements for establishing a *prima facie* case of obviousness are well established:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. *Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.* The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure. MPEP § 2142 citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

As explained in reference to the § 102(b) rejections above, *Le* fails to teach or suggest the limitations contained in claim 21. In addition, all dependent claims incorporate the limitations of the claims they depend on. Because claims 29, 30, 40, and 56 depend on and; therefore, incorporate the limitations of claim 21, and *Le* fails to teach the limitations of claim 21, *Le* also fails to teach or suggest the limitations contained in claims 29, 30, 40, and 56. The Office Action does not cite *Reddy*, *Tomaszewski*, or other prior art references, to teach the limitations that are absent from *Le*. Thus, the Office Action does not establish a *prima facie* case of obviousness as to claims 29, 30, 40, and 56, which are allowable over the cited prior art.

CONCLUSION

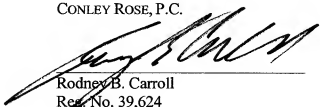
Consideration of the foregoing amendments and remarks, reconsideration of the application, and withdrawal of the rejections and objections is respectfully requested by Applicants. No new matter is introduced by way of the amendment. It is believed that each ground of rejection raised in the Office Action dated December 19, 2006 has been fully addressed. If any fee is due as a result of the filing of this paper, please appropriately charge such fee to Deposit Account Number 50-1515 of Conley Rose, P.C., Texas. If a petition for extension of time is necessary in order for this paper to be deemed timely filed, please consider this a petition therefore.

If a telephone conference would facilitate the resolution of any issue or expedite the prosecution of the application, the Examiner is invited to telephone the undersigned at the telephone number given below.

Respectfully submitted,

CONLEY ROSE, P.C.

Date: 3-5-07



Rodney B. Carroll
Reg. No. 39,624

5700 Granite Parkway, Suite 330
Plano, Texas 75024
(972) 731-2288

ATTORNEY FOR APPLICANTS